



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,421	01/17/2002	Ramsay Chang	9842-271-999	3434

24341 7590 03/05/2003

Pennie & Edmonds, LLP  
3300 Hillview Avenue  
Palo Alto, CA 94304

EXAMINER

LAWRENCE JR, FRANK M

ART UNIT	PAPER NUMBER
----------	--------------

1724

8

DATE MAILED: 03/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/052,421

Applicant(s)

CHANG ET AL.

Examiner

Frank M. Lawrence

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-17 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4 and 5 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Claim Objections*

1. Claim 17 is objected to because of the following informalities: In line 7 of claim 17, “demagnitized” should be changed to “demagnetized”. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 4 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang (5,505,766; figures 1, 2, 3c; col. 3, line 30 to col. 5, line 39; col. 6, lines 28-34; col. 8, lines 1-8).
4. Chang ('766) teaches a system for the removal of mercury from a combustor flue gas, comprising applying fresh sorbent from a silo (31) on to the surface of a filter bag (27) positioned in a baghouse that forms part of a duct for conducting flue gas, passing the flue gas over the sorbent structure to adsorb mercury onto the sorbent, removing the sorbent from the filter bag when it becomes saturated, collecting the saturated sorbent outside of the baghouse in a hopper (58), and repeating the adsorbing step with a new quantity of fresh sorbent. Sorbent may also be continuously injected with the flue gas (see col. 8, lines 1-8), which is prior to passing through the baghouse.

### *Allowable Subject Matter*

5. Claims 6-17 are allowed.

Art Unit: 1724

6. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is an examiner's statement of reasons for allowance: Reasons for indicating allowable subject matter in claim 3 are given in the previous office action of paper no.

5. Regarding claims 6 and 16, a method for removing a vapor-phase contaminant from a gas stream, comprising coating a sorbent structure positioned in a gas duct with a sorbent, passing a gas stream comprising a vapor-phase contaminant through the gas duct, contacting the vapor-phase contaminant with the sorbent to adsorb the contaminant onto the sorbent, removing the sorbent having the adsorbed contaminant from the duct, and recoating the sorbent structure with fresh sorbent, wherein either the sorbent structure is non-porous or the coating comprises magnetically attracting the sorbent to the structure, is not taught, disclosed or suggested in a single reference or a combination of references in the prior art of record. Also, an apparatus for removing a vapor-phase contaminant from a gas stream, comprising a gas duct, a magnetized sorbent structure positioned inside the duct, and a sorbent attached to the structure, wherein the magnetized structure is configured to be periodically demagnetized, thereby allowing the sorbent to become detached from the sorbent structure, is not taught, disclosed or suggested in the prior art. The closest prior art to Chang ('766) fails to suggest a motivation for using a non-porous sorbent structure or the use of magnetic sorbent attraction.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

*Response to Arguments*

8. Applicant's arguments filed January 16, 2003 have been fully considered but they are not persuasive. Applicant argues that the Chang '766 patent fails to disclose passing a contaminated gas "over" a sorbent structure and instead teaches only passing contaminated gas "through" a sorbent structure. It is submitted that the contaminated gas in the prior patent will inherently pass over the sorbent structure formed in the baghouses in addition to passing through the bag support structures. There is an explicit teaching of passing gas over the sorbents because each baghouse includes a plurality of bags (col. 3, lines 39-40) causing contaminated gas to pass over some bags to pass through others, and also must pass over upstream portions or bags in order to pass through downstream portions. The newly submitted independent claims each recite features that clearly define over the Chang '766 reference and are indicated as allowable. The 112 rejections have been overcome and are withdrawn.

*Conclusion*

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional references listed on the attached PTO-892 form disclose mercury adsorption systems and devices having adsorbent coated onto support structures.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

Art Unit: 1724

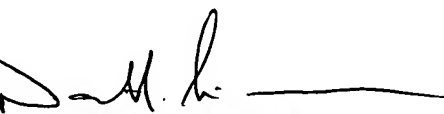
MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank M. Lawrence whose telephone number is 703-305-0585. The examiner can normally be reached on Mon-Thurs 7:30-5:00; alternate Fridays 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Simmons can be reached on 703-308-1972. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

fl *FL*  
February 25, 2003

  
David A. Simmons  
Supervisory Patent Examiner  
Technology Center 1700